

General

Title

Non-Hodgkin lymphoma: percent of lymphoma patients who are 65 years old or older and receiving CHOP +/-R, prescribed prophylactic myeloid growth factor (MGF).

Source(s)

American Society of Hematology (ASH). Non-Hodgkin lymphoma measure set: measure specifications. Washington (DC): American Society of Hematology (ASH); 2017 Feb. 36 p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percent of lymphoma patients who are 65 years old or older and receiving CHOP +/-R (or any regimen with the same or higher doses of cyclophosphamide and doxorubicin and, thus, with an equivalent or higher potential for neutropenia), prescribed prophylactic myeloid growth factor (MGF) (filgrastim, filgrastim-sndz, tbo-filgrastim or pegfilgrastim).

Rationale

Support (verbatim) from guidelines:

Prophylactic colony-stimulating factor (CSF) for patients with diffuse aggressive lymphoma aged 65 and older treated with curative chemotherapy (CHOP or more aggressive regimens) should be given to reduce the incidence of febrile neutropenia (FN) and infections (Smith et al., 2006).

Meta-analysis of controlled clinical trials on the prophylactic use of recombinant granulocyte CSFs has confirmed their effectiveness in reducing the risk of febrile neutropenia. Some concerns have been

expressed that the combination of growth factors and topoisomerase II inhibitors may be associated with increased risk of acute leukemia; however, these data are controversial. Despite these caveats, the use of growth factors appears to be the best established strategy to improve treatment in this group of patients (National Comprehensive Cancer Network [NCCN], 2015).

The development of FN is a common dose-limiting toxicity of many single agent and combination chemotherapy regimens that is directly related to the intensity of the regimen. Clinical trial data of chemotherapy regimens that have an incidence of FN greater than 20% in chemotherapy-naïve patients are considered by the panel as high risk. It is emphasized that the type of chemotherapy regimen is only one component of the risk assessment and needs to be combined with patient risk factors for an estimation of the overall risk for FN. The most important risk factor for developing severe neutropenia is higher age, notably over 65 years, inpatients who receive full chemotherapy dose intensity (NCCN, 2016).

The NCCN, American Society of Clinical Oncology (ASCO), and European Organisation for Research and Treatment of Cancer (EORTC) guidelines all recognize a variety of special circumstances in which patients treated with relatively nonmyelosuppressive chemotherapy regimens are at high risk for FN due to bone marrow compromise or comorbidity. Prophylactic MGF is recommended for any patient considered at high risk, regardless of treatment intent (NCCN, 2016).

ASCO guidelines recommend using white cell-stimulating factors when the risk of FN secondary to a recommended chemotherapy regimen is approximately 20% and equally effective treatment programs that do not require white cell-stimulating factors are unavailable. Exceptions should be made when using regimens that have a lower chance of causing FN if it is determined that the patient is at high risk for this complication (as a result of age, medical history, or disease characteristics) (Schnipper et al., 2012).

Evidence for Rationale

American Society of Hematology (ASH). Non-Hodgkin lymphoma measure set: measure specifications. Washington (DC): American Society of Hematology (ASH); 2017 Feb. 36 p.

National Comprehensive Cancer Network (NCCN). NCCN clinical practice guidelines in oncology: myeloid growth factors. Version 2.2016. Fort Washington (PA): National Comprehensive Cancer Network (NCCN); 2016 Jun 27.

National Comprehensive Cancer Network (NCCN). NCCN clinical practice guidelines in oncology: older adult oncology. Version 2.2015. Fort Washington (PA): National Comprehensive Cancer Network (NCCN); 2015 May 14.

Schnipper LE, Smith TJ, Raghavan D, Blayney DW, Ganz PA, Mulvey TM, Wollins DS. American Society of Clinical Oncology identifies five key opportunities to improve care and reduce costs: the top five list for oncology. *J Clin Oncol*. 2012 May 10;30(14):1715-24. [PubMed](#)

Smith TJ, Khatcheressian J, Lyman GH, Ozer H, Armitage JO, Balducci L, Bennett CL, Cantor SB, Crawford J, Cross SJ, Demetri G, Desch CE, Pizzo PA, Schiffer CA, Schwartzberg L, Somerfield MR, Somlo G, Wade JC, Wade JL, Winn RJ, Wozniak AJ, Wolff AC. 2006 update of recommendations for the use of white blood cell growth factors: an evidence-based clinical practice guideline. *J Clin Oncol*. 2006 Jul 1;24(19):3187-205. [128 references] [PubMed](#)

Primary Health Components

Non-Hodgkin lymphoma (NHL); chemotherapy regimen; CHOP +/-R; cyclophosphamide; doxorubicin; neutropenia; prophylactic myeloid growth factor (MGF); filgrastim; filgrastim-sndz; tbo-filgrastim; pegfilgrastim; elderly

Denominator Description

The number of lymphoma patients in your selection:

Who are greater than or equal to 65 years old
AND

Treated with CHOP +/-R (or any regimen with the same or higher doses of cyclophosphamide and doxorubicin and, thus, with an equivalent or higher potential for neutropenia)

See the related "Denominator Inclusions/Exclusions" field.

Numerator Description

The number of lymphoma patients in your selection:

Who are greater than or equal to 65 years old
AND

Treated with CHOP +/-R (or any regimen with the same or higher doses of cyclophosphamide and doxorubicin and, thus, with an equivalent or higher potential for neutropenia)
AND

Received prophylactic filgrastim, filgrastim-sndz, tbo-filgrastim or pegfilgrastim

See the related "Numerator Inclusions/Exclusions" field.

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Guideline statements on gap:

There remains wide variation in the appropriate use of granulocyte colony-stimulating factors (G-CSFs) for primary prophylaxis of febrile neutropenia (FN) in clinical practice. This variation from guideline standards results in increased use of these costly agents when the risk of FN is low. Conversely, the risk and morbidity of FN are increased when these agents are withheld as primary prophylaxis, contrary to guidelines (Schnipper et al., 2012).

Neutropenia and resulting FN can be induced by myelosuppressive chemotherapy. FN in turn is a major dose-limiting toxicity of chemotherapy, often requiring prolonged hospitalization and broad-spectrum antibiotic use. These can prompt dose reductions or treatment delays in subsequent chemotherapy cycles and compromise clinical outcome. A review by Dale et al. (2002) showed that about 25% to 40% of treatment-naïve patients develop FN with common chemotherapy regimens. Development of FN increases diagnostic and treatment costs and often leads to longer hospital stays. In addition, correlations have been reported between changes in neutrophil counts and quality of life, as measured by physical functioning, vitality, and mental health (Schnipper et al., 2012).

Statement from the American Society of Hematology (ASH) Lymphoma Task Force on gap:

This measure has been in use for the American Board of Internal Medicine (ABIM) Maintenance of Certification Performance Improvement Module since July 2013. Performance over the first 10 months (through May 2014) among this highly select group of hematologists is 82%. We believe performance among all hematologists would be somewhat lower. Due to the significant morbidity and costs associated with neutropenia, we suggest this gap remains significant.

Evidence for Additional Information Supporting Need for the Measure

American Society of Hematology (ASH). Non-Hodgkin lymphoma measure set: measure specifications. Washington (DC): American Society of Hematology (ASH); 2017 Feb. 36 p.

Dale DC. Colony-stimulating factors for the management of neutropenia in cancer patients. *Drugs*. 2002;62 Suppl 1:1-15. [PubMed](#)

Schnipper LE, Smith TJ, Raghavan D, Blayney DW, Ganz PA, Mulvey TM, Wollins DS. American Society of Clinical Oncology identifies five key opportunities to improve care and reduce costs: the top five list for oncology. *J Clin Oncol*. 2012 May 10;30(14):1715-24. [PubMed](#)

Extent of Measure Testing

The non-Hodgkin lymphoma (NHL) measure set was developed by the American Society of Hematology (ASH) using a rigorous methodology (adapted from the American Medical Association [AMA]-convened Physician Consortium for Performance Improvement [PCPI]) and has been field tested. The NHL measure set was accepted by American Board of Internal Medicine (ABIM) for use with practice improvement modules meeting Part 4 of Maintenance of Certification Requirements in 2013.

Evidence for Extent of Measure Testing

Frechette S. (Principal, Northfield Associates, LLC, Warren, VT). Personal communication. 2014 Dec 10. 1 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Individual Clinicians or Public Health Professionals

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 65 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

Case Finding Period

Unspecified

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Clinical Condition

Patient/Individual (Consumer) Characteristic

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

The number of lymphoma patients in your selection:

Who are greater than or equal to 65 years old

AND

Treated with CHOP +/-R (or any regimen with the same or higher doses of cyclophosphamide and doxorubicin and, thus, with an equivalent or higher potential for neutropenia)

Note: Refer to the original measure documentation for a list of International Classification of Diseases, Tenth Revision (ICD-10) codes used in lymphoma patient selection.

Exclusions

None

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

The number of lymphoma patients in your selection:

Who are greater than or equal to 65 years old

AND

Treated with CHOP +/-R (or any regimen with the same or higher doses of cyclophosphamide and doxorubicin and, thus, with an equivalent or higher potential for neutropenia)

AND

Received prophylactic filgrastim, filgrastim-sndz, tbo-filgrastim or pegfilgrastim

Note: This requires documentation in the patient medical record that the patient was 65 years of age or older AND treated with CHOP +/-R

(or any regimen with the same or higher doses of cyclophosphamide and doxorubicin and, thus, with an equivalent or higher potential for neutropenia) AND that prophylactic filgrastim, filgrastim-sndz, tbo-filgrastim or pegfilgrastim were prescribed as recommended in the National Comprehensive Cancer Network (NCCN) guidelines.

Exclusions

None

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Paper medical record

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Measure 4: the percent of lymphoma patients that are 65 years old or older and receiving CHOP +/-R (or any regimen with the same or higher doses of cyclophosphamide and doxorubicin and, thus, with an equivalent or higher potential for neutropenia), prescribed prophylactic myeloid growth factor (MGF) (filgrastim, filgrastim-sndz, tbo-filgrastim or pegfilgrastim).

Measure Collection Name

Non-Hodgkin Lymphoma Measure Set

Submitter

American Society of Hematology - Medical Specialty Society

Developer

American Society of Hematology - Medical Specialty Society

Funding Source(s)

The American Society of Hematology

Composition of the Group that Developed the Measure

The American Society of Hematology (ASH) Lymphoma Task Force:

Joseph Connors, MD (*Co-Chair*)
Jane Winter, MD (*Co-Chair*)
Jonathan Friedberg, MD, MMSc
Mikkael Sekeres, MD, MS
Lawrence A. Solberg, Jr., MD, PhD
Karen Kayoumi (ASH)
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Debra Reis (Healthmonix)
Lauren Patrick (Healthmonix)

Financial Disclosures/Other Potential Conflicts of Interest

Unspecified

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2017 Feb

Measure Maintenance

American Society of Hematology (ASH) reviews/updates measures annually

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates a previous version: American Society of Hematology (ASH). Non-Hodgkin lymphoma measure set: measure specifications. Washington (DC): American Society of Hematology (ASH); 2015 Dec. 36 p.

Measure Availability

Source not available electronically.

For more information, contact the American Society of Hematology (ASH) at 2021 L Street NW, Suite 900, Washington, DC 20036; Phone: 202-776-0544; Fax: 202-776-0545; Web site: www.hematology.org

NQMC Status

This NQMC summary was completed by ECRI Institute on June 19, 2015. The information was verified by the measure developer on August 27, 2015.

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This NQMC summary was updated again by ECRI Institute on March 21, 2017. The information was verified by the measure developer on May 3, 2017.

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Production

Source(s)

American Society of Hematology (ASH). Non-Hodgkin lymphoma measure set: measure specifications. Washington (DC): American Society of Hematology (ASH); 2017 Feb. 36 p.

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